

Johnny Jiggles the Planet

JOHN VON NEUMANN

By Norman Macrae.

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By Ed Regis

BY any measure, John von Neumann was a rare creature. Unequivocally one of the brightest minds of the 20th century, he made an indelible mark in mathematics, physics, economics, nuclear weapons technology and computer science, and had a hand in inventing at least three new fields — cellular automata theory (showing how groups of inanimate cells can be made to behave as if they were alive), game theory (applying mathematics to the art of decision making) and the systematic study of the similarity of minds and computers. In one of his own pet phrases, he “jiggled the planet.” So why is it that most people haven’t the faintest idea who he was?

Good question. Norman Macrae, the former principal editor of *The Economist*, sets out to rectify matters in “John von Neumann,” the first full-scale biography of this polymath, who was born Jewish in Hungary in 1903 and died Roman Catholic in the United States at the age of 53. And Mr. Macrae has some great stories to tell.

Von Neumann’s grammar school tutor, we learn, “came home with tears in his eyes from his first encounter with the young prodigy.” One of von Neumann’s college professors happened to mention in class an “unsolved” problem in mathematics. “Johnny came up privately at the end, and solved it.”

When he was 17 years old, von Neumann decided to pursue his undergraduate and graduate degrees simultaneously, in two different disciplines and in two separate countries. He wound up getting a diploma in chemical engineering from Zurich’s famous Federal Institute of Technology and a Ph.D. in mathematics from the University of Budapest, both in the same year,

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ALAN W. RICHARDS

J. Robert Oppenheimer, left, and John von Neumann at the Institute for Advanced Study, Princeton, N.J., 1952.

at the ripe old age of 22.

But he was also one of the guys. He loved money, fast living and gawking at women. When he was working at Los Alamos, N.M., to develop the atomic bomb during World War II, Mr. Macrae writes, the secretaries, who had desks open in the front, used to stick cardboard there “because, they said, Johnny had a habit of leaning forward, muttering, and peering up their skirts.”

Von Neumann was, in spite of some quirks, a man of considerable charm and wit. On one occasion he and his colleague Jacob Bronowski had been arguing late into the night about the correct solution to a problem.

“When I called his hotel in London,” Bronowski recalled, “he answered the phone in bed, and I said ‘Johnny, you’re quite right.’ And he said to me, ‘You wake me up early in the morning to tell me that I’m right? Please wait until I’m wrong.’”

Almost involuntarily, Mr. Macrae believes, people took a great liking to von Neumann, even those who disagreed with his right-wing politics. (After World War II, von Neumann worked with Edward Teller to push for the development and possible deployment of thermonuclear weapons and was “grieved” by the pacifism he found among physicists.)

The risk in writing a biography of a man like von Neumann lies in contracting a bad case of hagiography disease. Mr. Macrae has not managed to avoid it — one of the drawbacks of the book, he says, is “a danger of praising Johnny too glutinously” — nor has he even tried very hard. From this account, one would think that von Neumann, whom Mr. Macrae calls “Johnny” throughout the book, rarely did anything bad, boring or stupid — other than occasionally driving cars into trees while contemplating the glories of higher mathematics.

But a more serious drawback than the possibly justified hero worship is that the book’s explanations of scientific theories are often facile, unintelligible or just plain wrong. In one case the author mentions nine major scientists and seven different versions of quantum mechanics, all in a single breezy paragraph. This is name-dropping, not science writing.

In another case, we read: “Hilbert had a spectral theory for bounded symmetric operators, but this did not help explain much until Johnny unveiled the notion of symmetry for unbounded operators. He did this by creating a spectral theory for unbounded operators that are self-adjoint.” Such unintelligibility is not mitigated by the author’s frank admission in the next sentence that “the ordinary reader (and this ordinary writer) may be staggering with incomprehension.”

Gödel’s theorem, Mr. Macrae says, is “an assertion something like ‘The following statement is unprovable.’” This rendering omits the single most distinctive feature of Gödel’s theorem: self-reference.

For all its faults, Mr. Macrae’s biography has rescued a lot of good science gossip from probable extinction, and has introduced many of us to the life story of a man we ought to know better. □